



Date: January 16, 2019

To: Mayor Jenny Durkan

From: Kevin O'Neill, Acting Director, SDOT 

Re: Center City Connector: Preliminary Civil/Vehicle Interface Feasibility Analysis and Operating Planning Update

Two follow up actions from the KPMG analysis conducted in 2018 were to do additional engineering analysis to further evaluate the integration of the CAF streetcar vehicle with the existing Seattle Streetcar system and proposed Center City Connector (C3) design, and to refine the operating cost estimates with King County Metro. This memo provides an update on this work and summarizes what we know now regarding estimated capital and operating costs for the Center City Connector and streetcar system.

Preliminary Civil/Vehicle Interface Feasibility Analysis

In August 2018, SDOT was authorized by the Mayor's Office to proceed with a preliminary analysis of potential conflicts posed by the CAF streetcar operating on existing South Lake Union (SLU) and First Hill Streetcar (FHS) infrastructure as well as proposed design for the C3 project, all of which was designed for the shorter, lighter streetcar manufactured by Inekon and currently in operation on SLU and FHS. SDOT tasked Parsons Transportation Group, the designer of record for the project, with a scope of work intended to analyze potential conflicts and develop conceptual design solutions and rough order of magnitude cost estimates. This work was conducted over approximately six weeks from late August to early October and a high-level interim assessment was prepared in early October 2018.

The interim analysis by Parsons looked at the new CAF vehicle and areas of interface and potential conflict with elements of the existing streetcar system (the FHS and SLU lines). These included the vehicle Operation and Maintenance Facilities (OMF) at Charles Street (FHS) and Fairview and Harrison (SLU), design for yard expansion at the SLU OMF included as part of the original C3 scope, interface with existing streetcar station stop platforms and tail tracks, dynamic envelope along the mainline, and capacity to support streetcar operations using the heavier CAF vehicle for the bridge structures located on Jackson Street between 2nd Avenue Extension South and 5th Avenue South.

Parsons conducted a general analysis of feasibility to modify the existing system and C3 design to accommodate the CAF vehicle and identified feasible design solutions for all civil/vehicle interface conflicts. Parsons further estimated a preliminary range of costs to implement these solutions at \$11M to \$17.4M (2022\$). An Executive Summary of the Parsons preliminary feasibility analysis is attached for your reference.

Following completion of the analysis in October, SDOT subsequently performed an internal review of the Parsons analysis and cost estimates to validate assumptions and methodology, and we took into consideration an extended FTA review time which added construction escalation costs. If the project continues, further design and analysis work to more fully evaluate the feasibility and costs of retrofitting

the existing civil infrastructure for the CAF vehicle will be necessary to refine scope and cost estimates. This will help determine a new project scope to be used to re-baseline the new project budget and schedule.

Operations Planning and Discussions with King County

In early 2018, SDOT and King County initiated regular meetings to review and discuss operating costs for the Seattle Streetcar system as expanded by the C3 project. These meetings have served as a collegial and productive forum for SDOT and King County staff to consider operating issues, plan for the negotiation of a new Interlocal Agreement (ILA) governing streetcar operations, and review assumptions and evaluate staffing needs and cost estimates for the original proposed C3 operating plan.

The original C3 operating plan called for two overlapping loops operating at 10-minute headways during peak hour service, resulting in 5-minute headways in the overlapping area. Operations and maintenance expenses for the expanded system were originally estimated as part of the FTA Small Starts grant application to total approximately \$16 million annually. More recent estimates developed in conjunction with KCM put the cost at closer to \$28M in the first year of operations (assumes 2025 opening). In addition, SDOT and KCM staff are looking at potential changes to the operating plan that would run the expanded system end to end as a single loop as opposed to two overlapping loops. This change would likely need to be evaluated as part of the FTA grant process.

Thank you. We look forward to further discussing the Center City Streetcar project with you.